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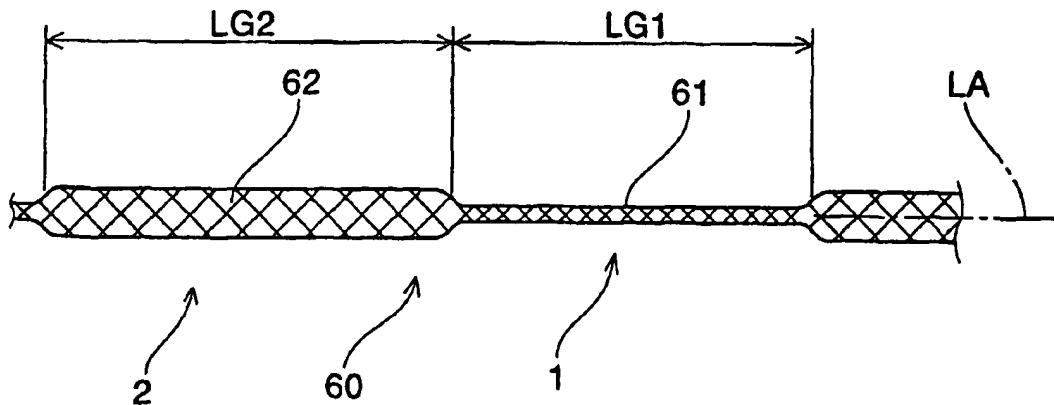
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(54) Title: CATA MENIAL TAMпон EMPLOYING COMPOSITE YARN AS WITHDRAWAL CORD



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(57) Abstract: The present invention is directed to a catamenial tampon, comprising: a primary absorbent member; and a withdrawal cord having a withdrawal portion and an attachment portion. The attachment portion is joined to the primary absorbent member. The withdrawal cord includes a composite yarn which includes a continuous string, and a secondary absorbent member joined to a part of the continuous string. The continuous string which has the secondary absorbent member joined thereto is woven according to a predetermined weaving manner after being provisionally twisted, thereby forming the attachment portion and the withdrawal portion. The present invention is also directed to a composite yarn having thinner portions and thicker portions which are alternatively disposed. The composite yarn comprises: a continuous string; and a plurality of fleeces intermittently joined to the continuous string.



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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 101 714 A (PENKSA STANLEY) 27 August 1963 (1963-08-27) the whole document	1
A	---	7
A	WO 00 61052 A (PROCTER & GAMBLE) 19 October 2000 (2000-10-19) cited in the application page 11, line 9 -page 13, line 16; claims; figures	1-9
A	---	
A	WO 99 33428 A (PLAYTEX PRODUCTS INC) 8 July 1999 (1999-07-08) claims	1-3
A	---	
A	CH 376 224 A (KOBLER & CO) 31 March 1964 (1964-03-31) the whole document	1, 4

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>PATENT ABSTRACTS OF JAPAN vol. 2000, no. 11, 3 January 2001 (2001-01-03) & JP 2000 212865 A (OZEKI TECHNO KK), 2 August 2000 (2000-08-02) cited in the application abstract</p> <p>-----</p>	11

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 3101714	A	27-08-1963	NONE			
WO 0061052	A	19-10-2000	US	6206867 B1	27-03-2001	
			US	6258075 B1	10-07-2001	
			AU	4032900 A	14-11-2000	
			AU	748284 B2	30-05-2002	
			AU	5325099 A	21-02-2000	
			BR	0009631 A	15-01-2002	
			BR	9912452 A	02-10-2001	
			CN	1345214 T	17-04-2002	
			CN	1310602 T	29-08-2001	
			CZ	20013591 A3	13-02-2002	
			EP	1171072 A1	16-01-2002	
			EP	1100424 A1	23-05-2001	
			JP	2002521133 T	16-07-2002	
			TR	200102838 T2	21-03-2002	
			TW	453870 B	11-09-2001	
			WO	0061052 A1	19-10-2000	
			WO	0006070 A1	10-02-2000	
			US	2001011169 A1	02-08-2001	
WO 9933428	A	08-07-1999	US	6142984 A	07-11-2000	
			AU	1948699 A	19-07-1999	
			CA	2316865 A1	08-07-1999	
			WO	9933428 A1	08-07-1999	
CH 376224	A	31-03-1964	NONE			
JP 2000212865	A	02-08-2000	TW	452610 B	01-09-2001	